

Table 3: Cement Plant NOX Control Costs

Source	Plant	Kiln type	Clinker production capacity (tons/hr)	Firing type (direct/indirect)	Existing Nox control	Existing Nox CEMs	Capital cost (\$)		Total annualized cost (annualized capital cost, labor, maintenance, taxes and administration, overhead) (\$/yr)		Annual monitoring cost		Annual reporting and permitting cost			Total annual administrative cost	Total annual cost		2007 projected emissions (tons)	30% emissions reductions (tons)	
											1990 \$	1990/1998 inflation factor	1998 \$	1990\$	1990/1998 inflation factor	1998\$		indirect firing	direct firing		
							Indirect-firing	direct firing	indirect firing	direct firing								indirect firing	direct firing		
Essroc	Speed	long dry	42	direct		yes		1,686,000		312,400	63,540	1.16	73,706	253	1.16	293	74,000			403	
Lonestar		semi-dry, preheater	184	indirect		yes	1,210,000		240,800		63,540	1.16	73,706	253	1.16	293	74,000			1845	
Lehigh	Mitchell	long dry	38	between direct and indirect firing			536,267	1,224,933	135,867	295,600	63,540	1.16	73,706	253	1.16	293	74,000			564	
		long dry	38	between direct and indirect firing			536,267	1,224,933	135,867	295,600										468	
		preheater	43	between direct and indirect firing			552,000	1,554,000	142,100	291,600										565	
Total							2,834,534	5,689,866	654,634	1,195,200							222,000	876,634	1,417,200	3845	1154
Overall cost-effective ness (\$/ton)																		760	1,228		